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VERIZON CORPORATE SERVICES GROUP INC.			LEVITAN, DMITRY	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/630,413

Applicant(s)

DEMAKAKOS ET AL.

Examiner

Dmitry Levitan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19, 21-33, 35-40, 42-44 and 46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19, 21-33, 35-40, 42-44 and 46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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Amendment, filed 04/22/05 has been entered. Claims 1-19, 21-33, 35-40, 42-44 and 46 remain pending.

Drawings

1. The drawings were received on 04/22/05. These drawings are approved.
2. In light of the Applicant's amendment, the objection to the drawings has been withdrawn.

Claim Objections

3. In light of the Applicant's amendment, the objection to the claims has been withdrawn.

Claim Rejections - 35 USC § 112

4. In light of the Applicant's amendment, the rejections under 35 U.S.C. 112, first and second paragraphs have been withdrawn.

Claim Rejections - 35 USC § 103

5. Claims 1-3, 7-9, 11-14, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton (US 5,343,461) in view of Gewin (US 5,060,226).
6. Regarding claim 1, Barton substantially teaches the limitations of claims 1:
A first input port (REV port of path 12 on Fig. 2 and 3, 16:60-67 and 17:1) for connection to a first digital carrier link for coupling to a digital network (DS1 facility 15 on Fig. 1-3);
A first output port (RCV OUT port of path 12 on Fig. 2 and 3) for connection to a second digital carrier link for coupling to a digital terminal equipment (CPE 20 on Fig. 2 and 3);

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A first path between the first input and output ports (path 12 on Fig. 2);

A second input port (XMT IN port of path 14 on Fig. 2 and 3) for connection to the second digital carrier link for coupling to a digital terminal equipment;

A second output port (XNT OUT port of path 14 on Fig. 2 and 3) for connection to the first digital carrier link for coupling to a digital network;

A second path between the second input and output ports (path 14 on Fig. 2);

A first selectively-activated loopback circuit (using loop-up or loop down codes 17:18-25) which when activated provides a third path between (using K1 relays on Fig. 2 and 3, 18:7-19) the first input port and the second output port;

A controller coupled to the first selectively-activated loopback circuit (loopback code detector on Fig. 2 and 3, 18:7-19) to activate it individually.

Barton does not teach a second selectively activated loopback circuit, a controller to activate the second loopback circuit and controller to activate the first and second loopbacks simultaneously.

Gewin teaches a second selectively activated loopback circuit (far and near side loopbacks as shown on Fig. 1B and 2:25-35) and a controller to activate the second loopback circuit (detector 46, synchronizer 50, reset comparator 48, comparator 56, timer 54, timing and control 60 and data selector 58 on Fig. 1B monitoring the near and far sides 6:7-15) and activating the first and second loopbacks simultaneously (activating relay 64 on Fig. 1B and 6:54-63).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate second loopback, its circuit activation and

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simultaneous activation of both loopbacks in the controller of Gewin into the system of Barton to improve the system loopback capabilities for near and far sides.

Regarding claim 2, Barton teaches the first signal path comprising a first signal regenerator and the second signal path comprising a second signal regenerator (regenerators 24 connected to paths 12 and 24, as shown on Fig. 2 and 15:48-62).

Regarding claim 3, Barton teaches a multi-position switch to activate the first regenerator in first position and de-activate in a second (switch 143 on Fig. 6 and 31:12-27).

Regarding claims 7 and 8, Barton teaches a line build-out circuit and pre-equalizing build-out circuit (automatic line build-out 34 on Fig. 2 and 17:8-10 and 18:56-59).

Regarding claim 9, Barton teaches a selectably-enabled power supply to provide power to the second carrier link (DC CON on Fig. 6 and 35:25-45).

Regarding claim 11, Gewin teaches the controller comprises a first/second loopback code detector (data selector 58 on Fig. 1B, monitoring first and second inputs 62 and 72 6:8:15) configured to:

If the first/second loopback circuit is de-activated, detect a loopback code received at the related input port and activate the first/second loopback circuit (activating normally dormant/transparent units 1:20-23 with a loop back code to activate both first and second loopbacks as on Fig. 1B and 6:45-67); and

Detect loop-down code received at the first/second input port and then de-activate both first and second loopback circuits, if in an active state (detecting reset code to terminate both loopbacks, Fig. 1B and 7:3-16).

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Regarding claims 12-14, Barton teaches four jacks (Fig. 3), two for non-intrusive monitoring/signal detection (RCV BRG and XMT BRG) and two for signal access/injection (EQ IN on network side and EQ OUT on terminal side).

Regarding claims 17 and 18, Barton teaches input and output ports connected to transmission span 10 on Fig. 1 disclosed as DS1 or T1 facility 15:36-46).

7. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton and Gewin in view of Admitted Prior Art disclosed in the specification on page 14 lines 11-16 and Bergstrom (US 5,521,977).

Barton and Gewin substantially teach the limitations of claims 15 and 16.

Barton and Gewin do not teach format detectors coupled with visual indicators identifying types of frame formats.

Admitted prior art teaches first and second format detectors to determine first and second formats of signals on first and second paths are one of unframed, SF/D4 and T1-ESF.

Bergstrom teaches a visual indicator (LED) that flashes when the system is in timed loopback (11:49-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add three indicators of Admitted Prior Art identifying three types of loop backs as LED of Bergstrom, making them visual, to the system of Barton and Gewin to improve the system visual loop back presentation.

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8. Claims 4, 22-26, 29, 32 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton (US 5,343,461) in view of Gewin (US 5,060,226) and Garcia (US 5,224,149).

9. Regarding claims 4, 22 and 36, Barton substantially teaches the limitations of claims 4, 22 and 36:

A first input port (REV port of path 12 on Fig. 2 and 3, 16:60-67 and 17:1) for connection to a first digital carrier link for coupling to a digital network (DS1 facility 15 on Fig. 1-3);

A first output port (RCV OUT port of path 12 on Fig. 2 and 3) for connection to a second digital carrier link for coupling to a digital terminal equipment (CPE 20 on Fig. 2 and 3);

A first path between the first input and output ports (path 12 on Fig. 2);

A second input port (XMT IN port of path 14 on Fig. 2 and 3) for connection to the second digital carrier link for coupling to a digital terminal equipment;

A second output port (XNT OUT port of path 14 on Fig. 2 and 3) for connection to the first digital carrier link for coupling to a digital network;

A second path between the second input and output ports (path 14 on Fig. 2);

A first signal regenerator coupled between the first input and output (regenerator 24 on Fig. 2 and 3, 15:57-63);

A first selectively-activated loopback circuit (using loop-up or loop down codes 17:18-25) which when activated provides a third path between (using K1 relays on Fig. 2 and 3, 18:7-19) the first input port and the second output port;

A controller coupled to the first selectively-activated loopback circuit (loopback code detector on Fig. 2 and 3, 18:7-19) to activate it individually.

Barton does not teach a second loopback and a controller to activate it, and to activate the first and second loopbacks simultaneously and a second signal regenerator coupled between second input and output.

Gewin teaches a second loopback circuit (far and near side loopbacks as shown on Fig. 1B and 2:25-35), a controller to activate the second loopback circuit (detector 46, synchronizer 50, reset comparator 48, comparator 56, timer 54, timing and control 60 and data selector 58 on Fig. 1B monitoring the near and far sides 6:7-15) and activate the first and second loopbacks simultaneously (activating relay 64 on Fig. 1B and 6:54-63).

Garcia teaches a second signal regenerator coupled between second input and output (regenerator 64 on Fig. 1 and 2, 4:37-49).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate second loopback circuit and simultaneous activation of both loopbacks in the controller of Gewin and a second regenerator of Garcia into the system of Barton to improve the system loopback capabilities for near and far sides.

In addition, regarding claim 36, Barton teaches first and second monitoring jacks for non-intrusively monitoring the first and second paths (RCV BRIDG and jack 181 on Fig. 3 and 6, 31:61-67 and 32:1).

Regarding claims 23 and 25, Gewin teaches the controller comprises a first/second loopback code detector (data selector 58 on Fig. 1B, monitoring first and second inputs 62 and 72 6:8:15) configured to:

If the first/second loopback circuit is de-activated, detect a loopback code received at the related input port and activate the first/second loopback circuit (activating

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normally dormant/transparent units 1:20-23 with a loop back code to activate both first and second loopbacks as on Fig. 1B and 6:45-67); and

Detect loop-down code received at the first/second input port and then de-activate both first and second loopback circuits, if in an active state (detecting reset code on any of the first or second inputs to terminate both loopbacks, Fig. 1B and 7:3-16).

Regarding claims 24 and 26, Gewin teaches first/second loopback detector is adapted to detect loop-up and loop-down codes in a plurality of formats (using codes of any sufficient length N as loop-up and loop-down codes 9:23-27).

Regarding claim 29, Barton teaches four jacks (Fig. 3), two for non-intrusive monitoring/signal detection (RCV BRG and XMT BRG) and two for signal access/injection (EQ IN on network side and EQ OUT on terminal side).

Regarding claim 32, Barton teaches input and output ports connected to transmission span 10 on Fig. 1 disclosed as DS1 or T1 facility 15:36-46).

10. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barton (US 5,343,461) in view of Gewin (US 5,060,226) and Garcia (US 5,224,149).

Regarding claim 28, Barton, Gewin and Garcia substantially teaches the limitations of claim 28, including a pre-equalized circuit for the first regenerator, but they do not teach a pre-equalized circuit to shape the second regenerated signal before it reaches the second output port.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate second pre-equalizer to shape the signal for the second

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generator into the system of Gewin, Garcia and Barton, if needed, to correct signal level for the DSX1/T1 loop.

11. Claims 30, 31 and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton (US 5,343,461), Gewin (US 5,060,226) and Garcia (US 5,224,149) in view of admitted prior art disclosed in the specification on page 14 lines 11-16 in further view of Bergstrom (US 5,521,977).

Barton substantially teaches the limitations of claims 30, 31 and 37-39.

Barton does not teach first and second format detectors to determine first and second formats of signals on first and second paths and first and second indicators to provide first and second plurality of visual indications based on first and second formats.

Admitted prior art teaches first and second format detectors to determine first and second formats of signals on first and second paths on first and second paths are one of unframed, SF/D4 and T1-ESF.

Bergstrom teaches a visual indicator (LED) that flashes when the system is in timed loopback (11:49-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate first and second format detectors of Admitted Prior Art to determine first and second formats of signals on first and second paths and first and second indicators to display the formats into system of Barton to improve visual indication of the signals received by the system.

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12. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton, Gewin and Garcia in further view of Bergstrom (US 5,521,977).

Barton, Gewin and Garcia substantially teach the limitations of claims 5 and 6.

Barton, Gewin and Garcia do not teach three visual indicators identifying three types of loop backs.

Bergstrom teaches a visual indicator (LED) that flashes when the system is in timed loopback (11:49-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was to use visual indicators of Bergstrom three times identifying three types of loop backs to the system of Barton, Gewin and Garcia to improve the system visual loop back presentation.

13. Claims 10 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton, Gewin and Garcia in further view of Jenkins (US 4,107,469).

Barton, Gewin and Garcia substantially teach the limitations of claims 10 and 27, including manual loop back switches on Fig. 6 and switches 203 and 205 37:6-19).

Barton, Gewin and Garcia do not teach three position switch to activate three types of loop backs.

Jenkins teaches using multi-position switch to combine several switch functions in one switch (Multi-position switch on Fig. 4).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to using multi-position switch of Jenkins to activate three types of loop backs

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to the system of Barton, Gewin and Garcia to combine three separate switches into one to save the system cost and space.

14. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barton (US 5,343,461) in view of admitted prior art disclosed in the specification on page 14 lines 11-16 in further view of Bergstrom (US 5,521,977).

Barton substantially teaches the limitations of claim 43:

A first input port (REV port of path 12 on Fig. 2 and 3, 16:60-67 and 17:1) for connection to a first digital carrier link for coupling to a digital network (DS1 facility 15 on Fig. 1-3);

A first output port (RCV OUT port of path 12 on Fig. 2 and 3) for connection to a second digital carrier link for coupling to a digital terminal equipment (CPE 20 on Fig. 2 and 3);

A first path between the first input and output ports (path 12 on Fig. 2);

A second input port (XMT IN port of path 14 on Fig. 2 and 3) for connection to the second digital carrier link for coupling to a digital terminal equipment;

A second output port (XNT OUT port of path 14 on Fig. 2 and 3) for connection to the first digital carrier link for coupling to a digital network;

A second path between the second input and output ports (path 14 on Fig. 2);

First and second monitoring jacks for non-intrusively monitoring the first and second paths (RCV BRIDG and jack 181 on Fig. 3 and 6, 31:61-67 and 32:1);

Visual indicator (loss of signal LED 25:34-39).

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Barton does not teach first and second format detectors to determine first and second formats of signals on first and second paths and first and second indicators to provide first and second plurality of visual indications based on first and second formats.

Admitted prior art teaches first and second format detectors to determine first and second formats of signals on first and second paths.

Bergstrom teaches a visual indicator (LED) that flashes when the system is in timed loopback (11:49-50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate first and second format detectors of Admitted Prior Art to determine first and second formats of signals on first and second paths and first and second indicators to display the formats into system of Barton to improve visual indication of the signals received by the system.

15. Claims 19, 21, 33, 35, 40, 42, 44 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton, Gewin and Garcia and in further view of Admitted Prior art (page 9, lines 11-19).

Barton, Gewin, Garcia substantially teach the limitations of claims 19, 33, 40 and 44.

Barton, Gewin, Garcia do not teach implementing the repeater on 200 or 400 type circuit cards.

Admitted Prior Art teaches implementing the repeater on 200 or 400 type circuit cards (Type-400 NCTE 9:11-19).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add implementing the repeater on 200 or 400 type circuit cards of Admitted

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Prior Art to the system of Barton, Gewin, Garcia to improve the system compatibility with existing shelves.

Regarding claims 21, 35, 42 and 46, Barton teaches implementing the repeater on the card with 56 pin-outs (using 56 pin connector 27:43-52).

Response to Arguments

16. Applicant's arguments on pages 14-19 have been considered but are moot in view of the new ground(s) of rejection.

17. On page 20 of the Response, Applicant argues that it is not obvious to combine teachings of Barton and Gewin.

Examiner respectfully disagrees.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Barton and Gewin teach testing of telecommunication equipment, connected with DS1/T1 lines, by means of loopback.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections

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are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Barton teaches selectable loopback for first port and Gewin teaches adding a second selectable loopback of Barton for the second port and operating both loopbacks simultaneously.

18. On page 22 of the Response, Applicant argues that it is not obvious to combine teachings of Barton and Gewin with Garcia, adding a second signal regenerator to the system.

Examiner respectfully disagrees.

Length of the loop connected to a second port could be sufficient to distort the received signal, therefore including a second regenerator of Garcia into the system will improve the quality of the looped back signal.

19. On page 24 of the Response, Applicant argues that it is not obvious to combine teachings of Barton and Gewin and Garcia with Admitted Prior Art, adding unframed, SF/D4 and T1-ESF detectors to the system.

Examiner respectfully disagrees.

Admitted Prior Art (page 14, lines 12-16) discloses unframed, SF/D4 and T1-ESF detectors, used to determine , based on the received data's characteristics, the DS-1 framing being used by the sending network.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate format detectors of Admitted Prior Art to determine first and second formats of signals on first and second paths in a system of Barton and Gewin and Garcia to improve indication of the signals received by the system.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'DL' followed by a stylized name.

Dmitry Levitan
Patent Examiner.
07/07/05